What is Claimed is:

1. A bilirubin concentration measuring apparatus, comprising:

a light emitter for emitting a first luminous flux falling in a first wavelength range and a second luminous flux falling in a second wavelength range, their bilirubin absorption coefficients differing from each other;

a light emerging port for projecting the first and second luminous fluxes onto skin of a person;

a first light incident port for allowing the first and second luminous fluxes having been diffused in the skin to pass therethrough;

a second light incident port for allowing the first and second luminous fluxes having been diffused in the skin to pass therethrough, the second light incident port being spaced away from the light emerging port a different distance than the first light incident port;

a first electric signal generator for generating a first electric signal corresponding to an intensity of the first luminous flux passed through the first light incident port, and a second electric signal corresponding to an intensity of the second luminous flux passed through the first light incident port;

a second electric signal generator for generating a third electric signal corresponding to an intensity of the first

luminous flux passed through the second light incident port, and a fourth electric signal corresponding to an intensity of the second luminous flux passed through the second light incident port; and

a calculator for calculating a bilirubin concentration based on the first to fourth electric signals.

2. An apparatus according to claim 1, wherein:

the light emerging port has the form of a circle and is disposed in a middle of a light incident plane;

the first light incident port has the form of a ring and is disposed on an outside of the light emerging port; and

the second light incident port has the form of a ring and is disposed on an outside of the first light incident port.

3. An apparatus according to claim 1, wherein:

the first light incident port has the form of a circle and is disposed in a middle of a light incident plane;

the light emerging port has the form of a ring and is disposed on an outside of the first light incident port; and

the second light incident port has the form of a ring and is disposed on an outside of the light emerging port.

4. An apparatus according to claim 1, wherein:

the light emitter includes a white light source operable to emit white light containing the first and second luminous fluxes;

the first electric signal generator includes:

a first light splitter for splitting the diffused luminous fluxes passed through the first light incident port into the first luminous flux and the second luminous flux;

a first photoelectric conversion device for generating the first electric signal corresponding to the first luminous flux split by the first light splitter; and

a second photoelectric conversion device for generating the second electric signal corresponding to the second luminous flux split by the first light splitter; and

the second electric signal generator includes:

a second light splitter for splitting the diffused luminous fluxes passed through the second light incident port into the first luminous flux and the second luminous flux;

a third photoelectric conversion device for generating the third electric signal corresponding to the first luminous flux split by the second light splitter; and

a fourth photoelectric conversion device for generating a fourth electric signal corresponding to the second luminous flux split by the second light splitter.

5. An apparatus according to claim 4, further comprising:

a first light guiding member for guiding the diffused luminous fluxes passed through the first light incident port to the first light splitter; and

a second light guiding member for guiding the diffused luminous fluxes passed through the second light incident port to the second light splitter.

6. An apparatus according to claim 1, further comprising an emission controller for controlling the emission of the light emitter, wherein:

the light emitter includes:

a first light source operable to emit the first luminous flux; and

a second light source operable to emit the second luminous flux;

the emission controller controls the first and second light sources to emit the first and second luminous fluxes separately;

the first electric signal generator includes a first photoelectric conversion device operable to individually generate the first and second electric signals based on the first and second luminous fluxes separately passed through the first light incident port; and

the second electric signal generator includes a second photoelectric conversion device operable to individually generate the third and fourth electric signals based on the first and second luminous fluxes separately passed through the second light incident port.

7. An apparatus according to claim 6, further comprising:

a first light guiding member for guiding the diffused luminous fluxes passed through the first light incident port to the first photoelectric conversion device; and

a second light guiding member for guiding the diffused luminous fluxes passed through the second light incident port to the second photoelectric conversion device.

8. An apparatus according to claim 6, wherein the first light source includes a blue light emitting diode, and the second light source includes a green light emitting diode or a red light emitting diode.

9. An apparatus according to claim 1, wherein the first luminous flux is absorbable by bilirubin, and the second luminous flux is hardly absorbable.

10. An apparatus according to claim 1, further comprising a memory for storing first to fourth constants corresponding to the first to fourth electric signals, respectively, wherein the calculator executes:

calculation of first to fourth products by multiplying the first to fourth electric signals by the first to fourth constants;

calculation of the logarithmic number of a quotient obtained by division of the second product by the first product;

calculation of the logarithmic number of a quotient obtained by division of the fourth product by the third product; and

calculation of a bilirubin concentration based on a difference between the calculated two logarithmic numbers.

11. An apparatus according to claim 10, further comprising a constant calculator for calculating the first to fourth constants; and a storage controller for controlling storage of the calculated first to fourth constants in the memory, wherein

the constant calculator calculates the first to fourth constants to assure the following relationships:

1) a product of a first white electric signal and the first constant is equal to a product of a second white electric signal and the second constant; and

2) a product of a third white electric signal and the third constant is equal to a product of a fourth white electric signal and the fourth constant,

wherein the first to fourth white electric signals are first to second electric signals which are obtained under conditions where the first and second luminous fluxes are projected onto a white diffuser having no wavelength dependency, and the first and second luminous fluxes from the white diffuser are received after having passed through the first and second light incident ports.

12. An apparatus according to claim 1, further comprising a projection operable to come into contact with skin of a person, the projection having a light-blocked portion and a non-light-blocked portion, wherein the light emerging port, and the first and second light incident ports are provided in the non-light-blocked portion of the projection.

13. A bilirubin concentration measuring apparatus, comprising:

a light emitter for emitting a first luminous flux falling in a first wavelength range, a second luminous flux falling in a second wavelength range, and a third luminous flux falling in a third wavelength range, the first luminous flux being absorbable by bilirubin, the second and third being hardly absorbable by bilirubin;

a light emerging port for projecting the first to third luminous fluxes onto skin of a person;

a light incident port for allowing the first to third luminous fluxes having been diffused in the skin to pass therethrough;

an electric signal generator for generating first to third electric signals corresponding to intensities of the first to third luminous fluxes passed through the light incident port, respectively; and

a calculator for calculating a bilirubin concentration based on the first to third electric signals.

14. An apparatus according to claim 13, wherein:

the light emitter includes a white light source operable to emit white light containing the first to third luminous fluxes;

the electric signal generator includes:

a first light splitter for splitting the diffused luminous fluxes passed through the light incident port into the first luminous flux and the other luminous fluxes;

a second light splitter for splitting the other luminous fluxes into the second luminous flux and the third luminous flux;

a first photoelectric conversion device for generating the first electric signal corresponding to the first luminous flux split by the first light splitter;

a second photoelectric conversion device for generating the second electric signal corresponding to the second luminous flux split by the second light splitter; and

a third photoelectric conversion device for generating the third electric signal corresponding to the third luminous flux split by the second light splitter.

15. An apparatus according to claim 13, further comprising an emission controller for controlling the emission of the light emitter, wherein:

the light emitter includes:

a first light source operable to emit the first luminous flux;

a second light source operable to emit the second luminous flux; and

a third light source operable to emit the third luminous flux;

the emission controller controls the first to third light sources to emit the first to third luminous fluxes separately; and

the electric signal generator includes a photoelectric conversion device operable to individually generate the first to third electric signals based on the first to third luminous fluxes separately passed through the light incident port.

16. An apparatus according to claim 15, wherein the first light source includes a blue light emitting diode, the second light source includes a green light emitting diode, and the third light source includes a red light emitting diode.

17. An apparatus according to claim 13, further comprising a memory for storing first to third constants corresponding to the first to third electric signals, respectively, wherein the calculator executes:

calculation of first to third products by multiplying the first to third electric signals by the first to third constants;

calculation of the logarithmic number of a quotient obtained by division of the second product by the first product;

calculation of the logarithmic number of a quotient obtained by division of the third product by the second product; and

calculation of a bilirubin concentration based on the calculated two logarithmic numbers.

18. A measurement data checking plate for use with a bilirubin concentration measuring apparatus, comprising:

a first light diffusing layer disposed in a top part of the plate and having substantially the same absorption coefficient for both a first luminous flux falling in a first wavelength range and a second luminous flux falling in a second wavelength range which are used in the bilirubin concentration measuring apparatus; and

a second light diffusing layer disposed below the first light diffusing layer and having a higher absorption coefficient of the first luminous flux than of the second luminous flux.

19. A measurement data checking plate according to claim 18, wherein the second light diffusing layer includes a color filter layer for absorbing the first luminous flux, the color filter layer adjoining the first light diffusing layer.

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